

REMARKS

Claims 1-20 are pending in the application. In the Office Action, dated September 7, 2004, claims 1-20 stand rejected under 35 U.S.C. § 103(a) as allegedly obvious over U.S. Patent No. 5,097,427 (Lathrop et al.) in view of U.S. Patent No. 5,977,982 (Lauzon) and further in view of U.S. Patent No. 5,710,876 (Peercy et al.).

Claim 1 has been amended by deleting the article “a.” No other amendments have been made. Initially, Applicants appreciate the time and effort the Examiner has spent into drafting the September 7, 2004 Office Action. As explained below, however, Applicants believe that the claimed invention patentably defines over the cited references.

Telephone Conferences Conducted on Nov. 4 and Nov. 5, 2004

On two separate occasions, November 4 and 5, 2004, a telephonic conference was held between Examiner Daniel J. Chung and Greg S. Plichta. During the first conference, on Nov. 4, preliminary issues dealing with claim language were discussed, and a question was raised as to the accuracy of statements made on page 3, lines 8-10 of the Office Action (paper 26), namely, whether it was accurate to state that: “determining the pixel value by using the unselected parameters with constant values and the selected parameters with varying texture values’ ... [are] ... claimed feature[s] of [the] invention.” As a preliminary matter, Examiner Chung agreed that the claims did not contain such limitations, but reserved any final decision until such time that he could obtain the file history of the Application and closely scrutinize the claims. Moreover, a fax was sent to Examiner Chung, containing a copy of the response (dated January 2, 2004) to the Final Office Action (Paper 21).

During the second conference call, on Nov. 5, Examiner Chung obtained the file history, and after perusing the Office Action and comparing it to the claim language, Examiner Chung agreed that the statements made on page 3, lines 8-10 of the Office Action were not accurate, because reference to “constant values” and “varying texture values” in the last element of claims 1 and 15 had been deleted in the previous response (dated January 2, 2004) to the Final Office Action (Paper 21). Thus, the amendments made in the January 2, 2004 response to the Final Office Action stand.

Examiner Chung stipulated that the Lauzon reference cited in support of the outstanding rejection of claims 1-20 was applicable to the extent the claims referenced “constant values” and “varying texture values.” In light of the fact that there is no reference in the listed claims to “constant values” but there is reference to “texture value[s] ... varying over the primitive” (claim 1, element 4), the undersigned treats the Lauzon reference as relied upon by Examiner Chung in the rejection of claims 1-20.

Initially, Applicants wish to gratefully acknowledge the time and effort that Examiner Chung spent with the undersigned in considering Applicant’s invention, demonstrably providing superior service to Applicants during prosecution of the present application.

Claim Rejections Under 35 U.S.C. § 103(a)

In the Official Action, claims 1-20 were rejected as obvious under § 103(a). In order to establish a *prima facie* case of obviousness, a showing must be made that all claim limitations are taught or suggested by the prior art. MPEP § 2143.03. However, at least one limitation present in claim 1 is not taught or suggested by the prior art:

1. In a computer graphics system, a method for applying texture mapping in per-pixel operations, the method comprising:

receiving a plurality of parameters that are used to define a pixel value at a pixel in a primitive;

selecting at least one parameter from the plurality of parameters;
substituting a texture value from a texture map in place of a value produced from an algorithm that uses the selected at least one parameter to determine a pixel value;

determining a texture value for each of the selected parameters by accessing a set of textures, the texture value for the selected parameters varying over the primitive; and

determining the pixel value by using the unselected parameters and the texture values over the primitive, wherein the set of unselected parameters are not texture values and the texture values are associated with the selected parameters.

(emphasis added). The last element in claim 1 recites “determining the pixel value by using ... unselected parameters ... and ... textures values ... associated with the selected parameters.” Determining pixel values in this way patentably distinguishes over both Lathrop and Lauzon.

Lathrop et al. generates display color values for each pixel by combining illumination values and texture values using the combining function (Fig. 1, col.2, l. 60 to col. 4., l. 25, and col. 4, l. 50 to col. 5, l. 56). But, unlike claim 1, Lathrop et al. lumps together all the illumination values to be then combined together with texture values. Put another way, Lathrop et al. does not separate the illumination values such that some values (selected parameters) are associated with texture values but others are not so associated (unselected parameters). Since Lathrop et al. uses all the illumination values in combination with the texture values by using a combining function, it does not teach “determining the pixel value by using *... unselected parameters ... and ... textures values ... associated with the selected parameters*” (claim 1).

Likewise, Lauzon falls short of teaching this limitation in claim 1. Lauzon arranges its components into those that change as a selected texture is modified and those that are constant. The Examiner equates the components that change as a selected texture is modified to the selected parameters, and the components that are constant to the unselected parameters (Office Action, p. 3, ll. 11-14). This is unwarranted since the “unselected parameters [in claim 1] may be used *without modification* in evaluating a light equation to determine a pixel value” (Application, p.13, ll.11-12) (emphasis added)—that is, these parameters are used without modification because they are “unselected” in the first place. Conversely, the constant components of Lauzon are *modified* because they are *pre-computed* to reduce computational requirements. In fact, Lauzon *selects both* of its components for *modification*: the changing components as a selected texture is modified and the constant components for pre-computing. Hence, Lauzon does not teach “determining the pixel value by using the *unselected parameters ... and the textures values ... associated with the selected parameters*” (claim 1).

Lastly, Peercy et al. is cited for the proposition that it discloses the third element in claim 1, namely, “substituting a texture value from a texture map in place of a value produced from an algorithm that uses the selected at least one parameter to determine a pixel value” (See Office Action, p.4, ll. 3-17). The third element is not at issue presently, instead the focus is on the fifth element. Peercy et al. does not disclose this fifth element and is not cited for this purpose in the Office Action. Thus, Peercy et al. does not disclose to “determining the

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pixel value by using the *unselected parameters* ... and the *textures values* ... associated with the *selected parameters*” (claim 1).

Similarly, independent claims 10 and 15 also patentably define over the art of record. For example, claim 10 recites “a rendering unit for generating the pixel value in response to the *texture values of the selected parameters* and to the *unselected parameters*.” Claim 15 recites, “means for determining the pixel value by using the *unselected parameters* ... and the *texture values* ... associated with the *selected parameters*.” Hence, Applicants respectfully submit that claims 1, 10, and 15 patentably define over the cited art.

Insomuch as claims 2-9, 11-14, and 16-20 depend either directly or indirectly from claims 1, 10, and 15, respectively, Applicants submit that they also patentably define over the art of record at least for the reasons set forth above. Accordingly, Applicants submit that claims 1-20 patentably define over Lathrop et al., in view of Lauzon, and further in view of Peercy et al. Allowability of the pending claims is thus earnestly solicited.

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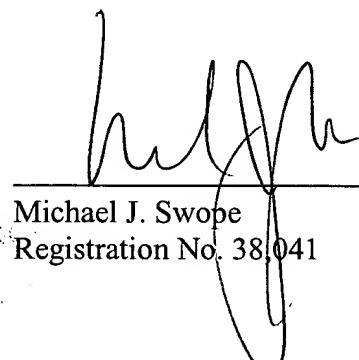
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CONCLUSION

Applicants believe that the present Amendment is responsive to each of the points raised by the Examiner in the Office Action, and submit that Claims 1-20 of the application are in condition for allowance. Favorable consideration and passage to issue of the application at the Examiner's earliest convenience is earnestly solicited.

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Michael J. Swope
Registration No. 38,041



Woodcock Washburn LLP
One Liberty Place - 46th Floor
Philadelphia PA 19103
Telephone: (215) 568-3100
Facsimile: (215) 568-3439